

APPENDIX

1. (Currently Amended) A heat dissipating device for improving the transfer of heat from at least one heat source mounted on a planar support to a heat sink radiating into the ambient,

comprising: a heat source semiconductor chip device on a common wiring bearing planar support,

at least two support fin members, each said fin member having been formed from a single sheet and folded into a substantially inverse U shape, each said fin member having two side arms, each said side arm having an inside surface and an outside surface and an edge, each said edge having a finger portion;

at least two parallel beam members made from heat conducting material, each said beam member having top, bottom and side walls, said side walls being positioned between said inside surface of said side arms of each said fin member;

said finger portion of said edge of said support fin member in contact with and secured to each said side wall of said beam member,

said finger portion of said edge being folded and extending below said bottom wall of said beam member and is in a bent position to form a contacting support structure which is a compliant interface

said beam members being positioned in contact with said heat source;

each said side arm being thinner than said beam members, and

there being a thermally conductive material positioned between said bottom wall of said beam member and said finger portion of said edge extending below said bottom wall of said beam member which is in said bent position

~~means for directing an ambient coolant over each said beam between said side arms.~~

2. (Previously Presented) The heat dissipating device defined in Claim 1 wherein said sheets are made of at least one of heat conducting materials selected from the group consisting of copper, aluminum, and graphite fiber composite.

3. (Previously Presented) The heat dissipating device defined in Claim 2 wherein said sheets are in a thickness range from 0.01 to 5 micrometers.

4. (Previously Presented) The heat dissipating device defined in Claim 3 wherein said sheets are mounted on said beam member by a technique selected from the group consisting of soldering, brazing, welding or gluing.

5. (Previously Presented) The heat dissipating device defined in Claim 1 wherein compliance is introduced into the interface with the lower face of said beam member through an extension of said sheets and the folding of the edges of those sheets into the interface with the lower face of said beam member.

6. (Previously Presented) The heat dissipating device defined in Claim 1 wherein said compliance is enhanced through at least one technique selected from the group consisting of: introducing thermally conductive grease between said finger portion of said folded edge which extends below said bottom wall of said beam member; introducing increasing resilience members between said folded edges and said bottom of said beam member; and, the use of low melting point solder at said folded edges at said bottom of said beam member.

7. (Withdrawn) The heat dissipating device defined in Claim 6 which also includes a heat conducting plate wherein heat in said heat conducting plate is passed to said heat dissipating device through a plurality of heat pipes wherein a first end of said heat pipe is embedded into said heat conducting plate and a second end of said heat pipe is in contact with the top wall of a plurality of said parallel beam members.

8. (Withdrawn) The heat dissipating device defined in Claim 7 having a spring placed between said top wall of said heat conducting plate which spring applies a force perpendicular to said interface of the lower surface of said beam members.

9. (Withdrawn) A heat dissipating device for improving the transfer of heat from at least one heat source mounted on a planar support to a heat sink radiating into the ambient, comprising

a stacked heat transfer structure including at least a first level having at least two parallel beam members each positioned in contact with said heat source and each supporting at least one superimposed subsequent level,

each said beam member in each said level further having side sheets thinner than said beam members, separated by said beam member with each side sheet fastened along edges of said beam,

heat pipe heat transfer with heat pipes entering through and exiting through said sheets and serially passing over said levels, and,

means for directing an ambient coolant over each said beam between said side sheets.